

# CHAPTER 9 HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROGRAM GUIDELINES

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## CHAPTER 9 HIGHWAY SAFETY IMPROVEMENT PROGRAM

### 9.1 INTRODUCTION

The Highway Safety Improvement Program (HSIP), codified as Section 148 of Title 23, United States Code (23 U.S.C. §148) remains as one of the core federal-aid programs in the new federal surface transportation act, “Moving Ahead for Progress in the 21st Century” (MAP-21), which was signed into law on July 6, 2012. The specific provisions of the HSIP are defined in Section 1112 of MAP-21. The purpose of the HSIP program is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-State-owned public roads and roads on tribal land.

In MAP-21, the High Risk Rural Roads (HR3) Program is not a set-aside funding program as in the previous federal surface transportation act. Instead, “construction and operational improvements on high risk rural roads” is one of the eligible categories of the HSIP projects, as defined in 23 U.S.C. §148(a)(4)(B).

This chapter contains general information for the HSIP program. For the announcement of Calls for Projects and their specific information, visit the local HSIP website <http://www.dot.ca.gov/hq/LocalPrograms/hsip.htm>.

### 9.2 ELIGIBLE APPLICANTS

The applicant for HSIP funds is an agency that assumes responsibility and accountability for the use and expenditure of federal-aid highway funds. The applicant must be a city, a county, or a tribal government federally recognized within the State of California. Exceptions to this requirement will be reviewed by the Department of Transportation (Caltrans), Headquarters - Division of Local Assistance (HQ-DLA) on a case-by-case basis.

It is expected that a funds transfer would be required between the Federal Highway Administration (FHWA) and the Bureau of Indian Affairs (BIA) for a project awarded directly to a tribal government. The tribal government may also partner with a city or county to apply for funding.

### 9.3 ELIGIBLE PROJECTS

HSIP funds are eligible for work on any public road or publicly owned bicycle or pedestrian pathway or trail, or on tribal lands for general use of tribal members, that corrects or improves the safety for its users. The twenty-four project categories as listed under 23 U.S.C. §148(a)(4)(B) are shown below. There is no funding priority assigned to the list.

23 U.S.C. §148(a)(4)(B):

*Inclusions.--The term ‘highway safety improvement project’ includes, but is not limited to, a project for one or more of the following:*

- (i) *An intersection safety improvement.*
- (ii) *Pavement and shoulder widening (including addition of a passing lane to remedy an unsafe condition).*

- (iii) *Installation of rumble strips or another warning device, if the rumble strips or other warning devices do not adversely affect the safety or mobility of bicyclists and pedestrians, including persons with disabilities.*
- (iv) *Installation of a skid-resistant surface at an intersection or other location with a high frequency of crashes.*
- (v) *An improvement for pedestrian or bicyclist safety or safety of persons with disabilities.*
- (vi) *Construction and improvement of a railway-highway grade crossing safety feature, including installation of protective devices.*
- (vii) *The conduct of a model traffic enforcement activity at a railway-highway crossing.*
- (viii) *Construction of a traffic calming feature.*
- (ix) *Elimination of a roadside hazard.*
- (x) *Installation, replacement, and other improvement of highway signage and pavement markings, or a project to maintain minimum levels of retroreflectivity, that addresses a highway safety problem consistent with a State strategic highway safety plan.*
- (xi) *Installation of a priority control system for emergency vehicles at signalized intersections.*
- (xii) *Installation of a traffic control or other warning device at a location with high crash potential.*
- (xiii) *Transportation safety planning.*
- (xiv) *Collection, analysis, and improvement of safety data.*
- (xv) *Planning integrated interoperable emergency communications equipment, operational activities, or traffic enforcement activities (including police assistance) relating to work zone safety.*
- (xvi) *Installation of guardrails, barriers (including barriers between construction work zones and traffic lanes for the safety of road users and workers), and crash attenuators.*
- (xvii) *The addition or retrofitting of structures or other measures to eliminate or reduce crashes involving vehicles and wildlife.*
- (xviii) *Installation of yellow-green signs and signals at pedestrian and bicycle crossings and in school zones.*
- (xix) *Construction and operational improvements on high risk rural roads.*
- (xx) *Geometric improvements to a road for safety purposes that improve safety.*
- (xxi) *A road safety audit.*
- (xxii) *Roadway safety infrastructure improvements consistent with the recommendations included in the publication of the Federal Highway Administration entitled 'Highway Design Handbook for Older Drivers and Pedestrians' (FHWA-RD-01-103), dated May 2001 or as subsequently revised and updated.*
- (xxiii) *Truck parking facilities eligible for funding under section 1401 of the MAP-21.*
- (xxiv) *Systemic safety improvements.*

Some of the work categories are broad in nature. Consult [the District Local Assistance Engineer \(DLAE\)](#) for clarifications or questions on project categories and/or eligibility that are not answered by the HSIP Guidelines, the Application Form, the Application Form Instructions and the Safety Program website. It is the intent of the HSIP program that federal funds be expended on safety projects that can be designed and constructed expeditiously. Projects should not require the acquisition of significant rights of way (not

more than 10% of the construction cost), nor should they require extensive environmental review and mitigation.

For a project to be eligible for HSIP funding, a specific safety problem must be identified for correction and the proposed countermeasure must correct or substantially improve the condition. **All proposed projects must lead to the construction of safety improvements.** The project must be consistent with [California's Strategic Highway Safety Plan \(SHSP\)](#).

Non-safety related construction items (such as landscaping, context sensitive solution features, etc) may be included in an HSIP project but are considered incidental to the overall project and shall not exceed 10% of the project construction cost. The local agency is responsible for all incidental work costs that exceed 10% of the construction costs.

## NON-INFRASTRUCTURE (NI) ELEMENTS

The project categories listed above include non-infrastructure (NI) elements. It is recognized that not all safety issues can be addressed solely by infrastructure improvements. To achieve marked improvements in roadway safety, a comprehensive approach to safety often includes the concept of the “4 E’s of Safety”: Engineering, Enforcement, Education, and Emergency Medical Services (EMS).

Agencies may consider including NI elements (i.e. education, enforcement, and EMS) in their HSIP application, as long as the NI elements support the proposed infrastructure improvements. Examples of the NI elements include traffic enforcement activities, safety education for adults or children, and emergency medical services work.

## HIGH RISK RURAL ROADS (HR3) ELIGIBLE PROJECTS

High Risk Rural Road is defined as “any roadway functionally classified as a rural major or minor collector or a rural local road with significant safety risks.” In MAP-21, the High Risk Rural Roads (HR3) Program is not a set-aside funding program but part of the HSIP (Project Category (xix): “Construction and operational improvements on high risk rural roads”). MAP-21 includes special requirements pertaining to HR3 eligible projects:

23 U.S.C. §148(g)(1):

*High-risk rural road safety.- If the fatality rate on rural roads in a State increases over the most recent 2-year period for which data are available, that State shall be required to obligate in the next fiscal year for projects on high risk rural roads an amount equal to at least 200 percent of the amount of funds the State received for fiscal year 2009 for high risk rural roads under subsection (f) of this section, as in effect on the day before the date of enactment of the MAP-21.*

For this reason, HR3-eligible projects still need to be identified and tracked separately. See Section 9.7 for special project selection considerations for HR3 eligible projects.

## 9.4 FUNDING

The maximum federal HSIP reimbursement amount for any single HSIP project is \$900,000 if the project is selected prior to HSIP Cycle 6 Call for Projects, or \$1,500,000 if the project is selected in or after HSIP Cycle 6 Call for Projects. All project expenses that exceed the maximum federal HSIP reimbursement amount will be the responsibility of the project sponsor and will not be eligible for reimbursement.

The minimum federal HSIP reimbursement amount for any single HSIP project is \$100,000. This minimum dollar amount has been established to ensure the efficiency and cost-effectiveness of the overall program and individual projects. Exceptions to this requirement will be reviewed on a case-by-case basis.

The maximum federal reimbursement ratio for all HSIP projects is ninety percent (90%). The actual project reimbursement ratio will be determined when the “Authorization to Proceed” is approved by the FHWA.

Once a project is selected for funding, the original federal HSIP amount shown in the project application is the maximum this project may have. Requests for additional federal HSIP funds that exceed the original federal HSIP amount will not be granted except in unusual cases. The total HSIP amount for any single HSIP project can never be more than the maximum federal HSIP reimbursement amount as defined above.

Project costs eligible for federal HSIP reimbursement include:

- **Preliminary Engineering**
  - Environmental Studies (NEPA Clearance required)
  - Preparation of Plans, Specifications and Estimates (PS&E)
- **Right of Way**
  - Engineering
  - Appraisal and Acquisition
  - Utility relocation
- **Construction**
  - Construction Engineering
  - Construction
- **Non-Infrastructure (NI) Elements**
  - Safety Education, Enforcement, EMS

## 9.5 PROJECTS INVOLVING STATE HIGHWAYS

A Caltrans-initiated safety project on a state highway that requires financial participation by a local agency is eligible for funding. Typically, these types of projects involve new or upgraded traffic signals at an intersection. The number of intersection legs owned by each agency determines the cost-sharing ratio. For example, if a traffic signal is proposed at a 4-legged intersection, 2 legs being a State Highway and 2 legs being a local road, the project cost sharing ratio for each agency would be fifty percent (50%). For other special financial arrangements, see Section 4B.104 (CA), Financing, of the [California Manual on Uniform Traffic Control Devices](#) (California MUTCD).

A local agency-initiated safety project on a local roadway that involves a State Highway must include a written correspondence from Caltrans-District Traffic staff. This letter only intends to confirm that Caltrans does not see issues with the proposed project that would prevent it from receiving an encroachment permit. If the project is likely to require financial participation by Caltrans, the applicant should include a formal letter of support and reasonable estimates of all cost sharing ratios, amounts, and funding schedule in their application.

The local agency should consult with the DLAE to identify any planned and/or programmed State Highway safety projects that may require financial participation by a

local agency. If Caltrans is developing a safety project that may require financial participation by a local agency, the local agency should consider submitting an HSIP application to compete for funding. Submittal of an application does not guarantee that the project will be approved for funding. The financial and project administration responsibilities of each agency shall be outlined in the Cooperative Agreement.

## 9.6 AGENCY APPLICATION

Normally an HSIP Call for Projects is made at an interval of one to two years. The timing and size of a Call for Projects is determined by the program apportionments, HSIP FTIP capacity and the delivery of the existing HSIP projects. Please visit the local HSIP website <http://www.dot.ca.gov/hq/LocalPrograms/hsip.htm> for specific information regarding Calls for Projects.

Prior to beginning the preparation of an HSIP application, agencies should ensure that they are in good standing with respect to the Safety Program Delivery Requirements and are eligible to receive new HSIP funding. For more details, see Section 9.9, Project Delivery, in these guidelines.

Agencies seeking HSIP funds to construct infrastructure improvements are required to complete the HSIP Application Form in PDF format located on [the website](#). The application form and its instructions guide applicants through the process of entering the required data. Applicants must follow the instructions in preparing their electronic and hard-copy of the application. Failure to do so will result in their application being rejected.

In the process of filling out the application, applicants are directed to utilize [the University of California, Berkeley Safe Transportation Research and Education Center \(SafeTREC\) website](#) for their Transportation Injury Mapping System (TIMS) Benefit/Cost (B/C) Calculation Tool. Once the data has been entered, the tool automatically calculates the B/C for the project and prepares a B/C calculation summary to be attached to the application.

## 9.7 APPLICATION REVIEW AND PROJECT SELECTION PROCESS

All proposed projects will be evaluated based on the Benefit/Cost (B/C) ratios. The B/C ratios are calculated automatically online. Refer to Section 9.6 for more details regarding B/C ratio calculation.

Applicants shall not submit projects with B/C ratios less than 1.0. Such projects are not eligible for funding and will be rejected if submitted.

### STATEWIDE PROJECT SELECTION

All proposed projects will be prioritized in descending order, statewide, by the calculated B/C ratios. Projects with highest B/C ratios will be selected for funding.

Seventy to eighty percent (70% to 80%) of the HSIP funds will be targeted for projects in Statewide Project Selection.

### **DISTRICT PROJECT SELECTION**

Projects that do not receive funding under Statewide Project Selection will re-compete for funding under District Project Selection, which is used to ensure a minimum level of funding throughout the state.

For each Caltrans District, those proposed projects that have not been selected in Statewide Project Selection will be ranked based on their B/C ratios. Projects with highest B/C ratios will be selected for funding.

Twenty to thirty percent (20% to 30%) of the HSIP funds will be targeted for projects in District Project Selection.

### **HR3 ELIGIBLE PROJECTS**

Due to the special rule pertaining to high risk rural road safety in MAP-21 (see Section 9.3), it may be necessary to have a lower statewide B/C cutoff for HR3 eligible projects, depending on the results of the above Statewide Project Selection and District Project Selection.

HQ-DLA staff, the DLAE and/or the District HSIP Program Coordinator will evaluate all projects that are projected to receive funding to ensure there are no fatal flaws in the proposed projects. The DLAE may also choose to establish a District review committee to assist in the fatal flaw evaluation. Applications that are determined to have fatal flaws will be rejected and dropped from consideration. “Fatal flaws” are defined in detail in the PDF application form and its instructions.

Approximately 3 to 4 months after the application due date, HQ-DLA will post the list of approved projects on the HSIP website. The DLAE will notify all applicants of the results.

## **9.8 PROJECT PROGRAMMING AND IMPLEMENTATION**

Caltrans HQ-Division of Transportation Programming will send the list of approved projects to the Metropolitan Planning Organizations (MPOs). The MPOs will amend the Federal Transportation Improvement Program (FTIP) to include their projects. Caltrans, acting as the MPO for the rural Regional Transportation Planning Agencies, will amend the Federal Statewide Transportation Improvement Program (FSTIP) accordingly. Once the FTIP/FSTIP is amended, the DLAE will notify the local agencies that they may submit their request for authorization (E76).

Once programmed into the FTIP/FSTIP, projects must be processed and implemented in accordance with the federal-aid procedures contained in the [Local Assistance Procedures Manual \(LAPM\)](#) and the [DLA Safety Program Delivery Requirements](#). Agencies are strongly encouraged to review the LAPM and Delivery Requirements before submitting new applications and/or proceeding with new projects, even if they have completed federally funded projects in the past, as these documents evolve over time.

Once programmed into the FTIP/FSTIP, projects are implemented by phases (Preliminary Engineering, Right of Way, or Construction). For each phase, federal funds are considered obligated to the project when the FHWA approves the ‘Request for Authorization’ (see Chapter 3, Project Authorization, of the [LAPM](#)).

Agencies should not proceed with any phase of reimbursable work (Preliminary Engineering, Right of Way, or Construction) until the DLAE provides the local agency with the written “Authorization to Proceed” for each project phase.



**All costs associated with any phase of work performed prior to receiving written “Authorization to Proceed” from the DLAE will not be eligible for reimbursement.**

## 9.9 PROJECT DELIVERY

To meet FHWA’s intent for HSIP federal funds being expended on safety projects that can be designed and constructed expeditiously and to ensure that all programmed projects are delivered in a timely manner, DLA has created [Safety Program Delivery Requirements](#) for all ongoing and future federally funded safety projects.

The key delivery requirements for safety projects include three milestones and corresponding delivery deadlines:

1. Request for Authorization to Proceed with PE within 6 months after the project is amended into the Federal Statewide Transportation Improvement Program (FSTIP).
2. Request Authorization to Proceed with Construction within 30 months (2 ½ years) after the project is amended into the FSTIP.
3. Complete construction and close-out the project within 54 months (4 ½ years) after the project is amended into the FSTIP.

Once the FTIP/FSTIP is amended, the DLAE will notify the local agencies that the project delivery requirements start and they may submit their request for authorization (E76).

**If an agency has an active HSIP project that is flagged for not meeting one or more of these milestones, Caltrans will not accept HSIP applications from that agency unless the flags have been resolved by the current Call for Projects application due date.** See the [Safety Program Delivery Requirements](#) document posted on the [Safety Program Delivery Status website](#) for further details. Agencies can check current project milestone status under the “Project and Program Summaries” section on this web page.

Due to FHWA’s financial constraint requirement for the FSTIP, past poor delivery of HSIP projects and the need to expedite HSIP projects to the maximum extent possible, DLA anticipates that most local agencies will be required to utilize Expedited Project Selection Procedures (EPSP) in order to meet the above delivery requirements. To better explain these procedures and provide additional guidance, DLA has created a document titled “[Using EPSP to Meet Delivery Requirements](#).” The document is available on the [HSIP website](#).

### PROJECT INACTIVITY

Inactive projects tie up limited program funds from being used by other local agencies for their safety needs. Federal-aid projects become ‘inactive’ when there has been no financial activity (invoice submittals or payments) on the project within certain time periods. The duration of the time period that triggers inactivity is based upon the unexpended balance of the project.

HSIP projects that become ‘inactive’ can lose all federal funds that have been programmed, obligated, and expended on a project. Go to [the DLA Inactive Projects website](#) for additional information.

## 9.10 DESIGN STANDARDS

Chapter 11, “[Design Standards](#)”, of the LAPM describes statewide design standards, specifications, procedures, guides, and references that are acceptable in the geometric, drainage, and structural design of local assistance projects. The chapter also describes design exception approval procedures. These procedures shall be used for all HSIP projects on the local road system.

If a project contains a bikeway component, it shall be designed in accordance with the [Caltrans Highway Design Manual](#) and the [California Manual on Uniform Traffic Control Devices \(California MUTCD\)](#). Exceptions to using these standards will be handled in accordance with the exception approval process described in the appropriate manual.

All projects must meet the requirements of the Americans with Disabilities Act of 1990 (ADA) and Section 504 of the Rehabilitation Act of 1973. For more information on [ADA compliance](#), please refer to Chapter 11, “Design Standards,” of the LAPM, or go to the DLA website.

All projects must upgrade nonstandard safety features to the appropriate standard when those features are within the scope and work area of the project. Requests for exceptions to this requirement must follow all federal exception approval processes.

A local agency that proposes to install an experimental traffic control device on a public roadway shall follow the process prescribed in Section 1A.10 of the California MUTCD and coordinate with the [California Traffic Control Devices Committee \(CTCDC\)](#). Given that this can be a time-consuming process, DLA does not recommend pursuing experimental traffic control devices unless the local agency is close to obtaining the approval to use the experimental device or unless the local agency is willing to accept the risk that the project might fail to meet the delivery requirements and the agency would be prevented from applying for future HSIP funding until the project is complete.

All projects containing Intelligent Transportation System (ITS) components shall comply with federal ITS regulations. See Chapter 12.6, [Intelligent Transportation Systems](#), of the Local Assistance Program Guidelines (LAPG).

All projects containing proprietary items shall comply with related federal regulations. See Chapter 12.12, [Materials and Equipment](#), of the Local Assistance Procedures Manual (LAPM).

## 9.11 PROGRAM EVALUATION

Title 23, United States Code §148(h) and Title 23, Code of Federal Regulation Part 924.13 require that the HSIP program be evaluated for its effectiveness in reducing the number of crashes, fatalities, and serious injuries on the nation’s roadways. Applicants that receive funding for a project may be asked to collect and submit data to Caltrans upon completion of the project. Positive safety benefits documented on constructed projects can help justify continued funding at or above current funding levels.

## 9.12 PROJECT PREFIXES AND FEDERAL PROGRAM CODES

### HR3 eligible projects:

The project prefix to be used is **HRRRL**. HR3 program codes (LS20, LS2E and LS2R) should be used until all HR3 apportionments are used up. HSIP program codes (LS30, LS3E, LS3R and MS30) can be used when there are no HR3 apportionments available.

**HSIP projects that are not HR3 eligible:**

The project prefix to be used is **HSIPL**. The HSIP program codes to be used are LS30, LS3E, LS3R and MS30.

**9.13 REFERENCES**

1. Title 23, United States Code, Section 148  
❖ <http://uscode.house.gov/>
2. Title 23, Code of Federal Regulations, Part 924  
❖ <http://www.ecfr.gov/>
3. Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21)  
❖ <http://www.fhwa.dot.gov/map21>
4. California Streets and Highways Code, Sections 2330-2334  
❖ <http://www.leginfo.ca.gov/cgi-bin/displaycode?section=shc&group=02001-03000&file=2330-2334>
5. FHWA Highway Safety Improvement Program Manual  
❖ <http://safety.fhwa.dot.gov/hsip/resources/fhwasa09029/>
6. FHWA Local and Rural Road Safety Program  
❖ [http://safety.fhwa.dot.gov/local\\_rural/](http://safety.fhwa.dot.gov/local_rural/)
7. California Manual on Uniform Traffic Control Devices (California MUTCD)  
❖ <http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/>
8. California Traffic Control Devices Committee (CTCDC)  
❖ <http://www.dot.ca.gov/hq/traffops/signtech/newtech/others/guidelines-exp.pdf>
9. Strategic Highway Safety Plan (SHSP)  
❖ <http://www.dot.ca.gov/SHSP/>
10. Caltrans District Offices  
❖ <http://www.dot.ca.gov/hq/LocalPrograms/dlae.htm>
11. Caltrans Highway Design Manual  
❖ <http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm>
12. Caltrans Local Assistance Program Guidelines (LAPG)  
❖ <http://www.dot.ca.gov/hq/LocalPrograms/lam/lapg.htm>
13. Caltrans Local Assistance Procedures Manual (LAPM)  
❖ <http://www.dot.ca.gov/hq/LocalPrograms/lam/lapm.htm>
14. Local HSIP Website  
❖ <http://www.dot.ca.gov/hq/LocalPrograms/hsip.htm>
15. HSIP - List of approved projects  
❖ [http://www.dot.ca.gov/hq/LocalPrograms/HSIP/prev\\_cycle\\_results.htm](http://www.dot.ca.gov/hq/LocalPrograms/HSIP/prev_cycle_results.htm)

16. HR3 - List of approved projects
  - ❖ [http://www.dot.ca.gov/hq/LocalPrograms/HR3/approved\\_project\\_lists.htm](http://www.dot.ca.gov/hq/LocalPrograms/HR3/approved_project_lists.htm)
17. HSIP – Application, Application Instruction, and related documents.
  - ❖ [http://www.dot.ca.gov/hq/LocalPrograms/HSIP/apply\\_now.htm](http://www.dot.ca.gov/hq/LocalPrograms/HSIP/apply_now.htm)
18. Safety Program Delivery Requirements and Delivery Status
  - ❖ [http://www.dot.ca.gov/hq/LocalPrograms/HSIP/delivery\\_status.htm](http://www.dot.ca.gov/hq/LocalPrograms/HSIP/delivery_status.htm)
19. HSIP – Benefit/Cost Ratio Calculator (UC Berkeley, SafeTREC TIMS website)
  - ❖ <http://tims.berkeley.edu>
20. Local Programs – ADA compliance
  - ❖ [http://www.dot.ca.gov/hq/LocalPrograms/DBE\\_CRLC/DBE\\_CRLC.html#ADA](http://www.dot.ca.gov/hq/LocalPrograms/DBE_CRLC/DBE_CRLC.html#ADA)
21. Local Programs – Inactive Projects
  - ❖ <http://www.dot.ca.gov/hq/LocalPrograms/Inactiveprojects.htm>